# Green Buildings and Sustainable Development: Making the Business Case

Prepared by Anne Frej

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Urban Land Institute

## **About ULI**

ULI-the Urban Land Institute is a nonprofit education and research institute that is supported by its members. Its mission is to provide responsible leadership in the use of land to enhance the total environment. ULI sponsors education programs and forums to encourage an open, international exchange of ideas and sharing of experiences; initiates research that anticipates emerging land use trends and issues and documents best practices; proposes creative solutions based on that research; provides advisory services; and publishes a wide variety of materials to disseminate information on land use and development. Established in 1936, ULI has more than 18,000 members in 70 countries representing the entire spectrum of the land use and development disciplines.

Richard M. Rosan President

**ULI Land Use Policy Forum Reports.** ULI is in the forefront of national discussion and debate on the leading land use policy issues of the day. To encourage and enrich that dialogue, the Institute holds land use policy forums at which leading experts gather to discuss topics of interest to the land use and real estate community. The findings of these forums serve to guide and enhance ULI's program of work. The Institute produces summaries of these forums in its Land Use Policy Forum Reports series, which are available on the ULI Web site at www.policypapers.uli.org. By holding these forums and publishing summaries of the discussion, the Institute hopes to increase the body of knowledge that contributes to the quality of land use policy and real estate development practice throughout the country.

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### Introduction

In August 2003, the Urban Land Institute convened a panel of 25 experts in Aspen, Colorado, for a one-day forum to discuss the topic, "Green Buildings and Sustainable Development: Making the Business Case."

Participants represented a range of professions including real estate development, architecture and landscape architecture, academia, the business community, and organizations such as ULI and the U.S. Green Building Council (USGBC) that support sustainable development. The purpose of the forum was to identify the obstacles that interfere with wider acceptance of green buildings and to stimulate a dialogue on how the business case for these buildings can be made more effectively, particularly to the commercial real estate community.

#### **Policy Forum Summary**

The forum began with a welcome and opening remarks by forum cochairs Ken Hubbard, executive vice president and partner at Hines; and Bill Browning, principal at the Rocky Mountain Institute and founder of its Green Development Services. Forum participants then gave a series of presentations that led to an exchange of opinions and ideas regarding the challenges and opportunities in making the business case for green buildings.

#### The Major Challenges to Business Acceptance of **Green Building and Sustainable Development**

Starting the discussion, Bill Browning noted the growing support for green development from architects, federal agencies, and visionary developers. However, its benefits still are misunderstood.

According to Browning, the state of California has explored the issue of whether green buildings are more expensive than standard construction through a study— The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force—led by Greg Kats of Capital E consultants and published in October 2003. This is the most rigorous study ever done on the costs and benefits of green buildings as defined by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. Drawing on national data for 100 green buildings and an in-depth review of several hundred existing studies, the study found that sustainable buildings are a cost-effective investment. The report concluded that financial benefits of green design run from \$50 to \$70 per square foot in a LEED

building—more than ten times the additional cost associated with building green. These benefits were in lower energy, waste, and water costs; lower environmental and emissions costs; lower operational and maintenance costs; and increased productivity and health.

There are still pockets of resistance to green building. Certain building product manufacturers oppose the certification process. In addition, some building-related professional organizations have been lukewarm about the concept, although it now has begun to gain support within many organizations, including the National Association of Home Builders (NAHB). A further problem has to do with real estate advisers and brokers, many of whom incorrectly advise their clients that green buildings are more expensive than other types of construction.

Ken Hubbard commented that there is a groundswell of interest in green buildings but until a convincing economic argument is made in their favor, there will continue to be a "disconnect" between advocates of green buildings and others involved in real estate. He recounted a recent article in the Wall Street Journal that portrayed green high-performance buildings as a developers' marketing gimmick. Hubbard stressed that there is a major communication problem. Intermediaries involved in the real estate decision-making process for example, real estate brokers—are not well informed about practices related to high-performance green buildings. He asked forum participants to consider how to reach different groups and move from advocacy of green buildings to mainstreaming them.

As an overview of the industry today, Christine Ervin, president and CEO of the USGBC provided background on the organization's growth. USGBC, which celebrated its tenth anniversary this year, has been successful in establishing a definition of "green" through its wellrespected LEED certification process. The council has experienced strong growth in its membership, which currently includes 3,400 member companies. Also, members have been increasingly diverse in type and geographic spread. Today, there are 57 local chapters and there is growing international interest. Sixty-three projects have been awarded LEED certification and more than 900 projects are registered to become LEEDcertified, of which 80 percent are expected eventually to receive certification. These encompass a wide diversity of building types, from fire stations to airports. USGBC's first Greenbuild expo, launched last year, drew 4,200

attendees. Ervin also emphasized the significance of a meeting of major building associations—"The Summit of the Professions"—that took place in Atlanta in July 2003, during which this high-level leadership group agreed that the need for sustainability is urgent.

Bruce Babbitt of Latham & Watkins asked if there had been a national movement to formulate uniform green development standards, similar to the development of zoning standards in the United States. Christine Ervin said that this sort of approach had not taken place but that some communities have modified LEED standards for their own use. In terms of individual buildings, one of the selling points of LEED is that the program is voluntary. It was observed that local building codes and labor unions sometimes restrict green building processes in communities. In response, George Ranney, president and CEO of Chicago Metropolis, described his experience with unions through this Chicago-based business organization. This group found that some of the strongest support for better planned communities has come from union leaders because "they have figured out that skilled jobs are closer to urban areas."

A lack of research on the benefits of green buildings was noted as a significant barrier to making the business case for green buildings. Don Horn from the U.S. General Services Administration described how the GSA is funding studies through its Workplace 2020 program. There are now eight to nine active pilot projects and GSA is working with the Georgia Institute of Technology (Georgia Tech) to provide the results from the study on its Web site.

Harry Frampton, East West Partners, questioned whether there has been any research on the macro benefits of sustainable development. For example, what are the larger benefits to communities? Bill Browning observed that until now the argument primarily has been related to individual projects. Susan Maxman of Susan Maxman Associates said that quantifying community benefits could help encourage the implementation of financial incentives from the public sector. Roger Platt added that David Goldstein of the National Resource Defense Council is undertaking research on how certain types of green development reduce community costs such as those related to transportation.

"Greenwashing" or making unsubstantiated product claims was brought up as a practice that hurts the industry as a whole. The lack of transparency and the absence of product standards are part of the problem. Jim

Hartzfeld of Interface, providing the product manufacturer's viewpoint on green development, described three main levels of green practice. The first occurs when manufacturers advertise their endorsement of green practices through brochures and marketing materials. At the next stage, a fundamental shift in manufacturing takes place. At the third level, there are systemic design changes. At this final stage, manufacturers may actually find opportunities to save money in their processes. Once companies start to consider how products actually are used and what their effects are on users, they can provide major benefits to consumers.

Bill McDonough of William McDonough & Partners addressed the group through teleconference. In describing the barriers to green development, he emphasized that designers and others involved in green development need to learn the "language of business." He finds that working at the uppermost corporate level with visionary executives helps to avoid the obstacles that are often found at the middle management level.

McDonough cited examples of projects that benefited from a visionary corporate approach:

- The Gap headquarters in San Francisco uses a green roof and raised floors that allow incoming air to cool the building at night. A preliminary cost-benefit analysis undertaken by the company indicated that additional costs for "green" features would be paid back in 11 years but in reality, the payback period was only four years.
- Nike's facility in Europe was designed as a park of the future with the user's comfort in mind. A unique team effort was used to develop a vision for the facility's design.
- The Ford Motor Company's Rouge complex in Dearborn, Michigan, features the world's largest green roof. To convince the company's board of directors of its benefits, McDonough reminded them that they had a \$48 million contingency posted for stormwater runoff. Rather than spend that money on remediation, they were convinced instead to install a living green roof and produce oxygen as a byproduct.

McDonough noted that just 20 years ago there was little research on the impact of building design on users. Today, the issue of contingent liability is "front and center." Indoor air quality and other environmental issues have become concerns from a business liability standpoint, but companies should strive to create value

rather than only avoid liability. To assist his clients in developing a vision for their projects, McDonough asks them if they are willing to make the statement, "give it to me toxic."

Jim Chaffin wondered if success in promoting individual green buildings can be taken to the wider community level. In response, McDonough cited Chicago, which is planning to adopt principles that will be integrated into planning at the local level to promote sustainability. He observed that communities should aim not only to consume less power, but also actually to generate power.

Roger Platt of the Real Estate Roundtable quizzed McDonough on techniques or strategies that architects and developers can use to achieve high performance even on lower-budget or speculative projects. According to McDonough: "Anticipate and design for the future; tell clients to imagine that they are integrating with natural systems and design for that possibility."

McDonough concluded by emphasizing that sustainability is really about good design. He commented that he looks forward to the time when it is commonplace to design high-quality products for all generations.

Next, John Gattuso of Liberty Property Trust described his company's experience with green development. The Malvern, Pennsylvania—based real estate investment trust currently has four buildings in various stages of LEED certification:

- An eight-story building in Allentown, Pennsylvania, is 80 percent preleased by PPL. Its design incorporates green standards and pays attention to its context in the community.
- A 1.3 million-square-foot tower in Philadelphia will be undertaken shortly. Its design also takes its downtown setting into consideration.
- A 63,000-square-foot speculative building is part of the large-scale Philadelphia Navy Yard redevelopment, which is planned as a sustainable multipurpose community.
- A 1980s-era office in Greenville, South Carolina, is being renovated using LEED standards.

Gattuso stated that over the past several years his company has leased between 14 million and 15 million square feet of office space in new and existing buildings in 20 markets around the country. Although Liberty Property Trust has actively used sustainable design as a marketing

tool, so far, there has been only one case in which green design has been a consideration for a potential user. Gattuso infers from this experience that real estate continues to be regarded as a commodity. In contrast, his company is moving away from this philosophy toward a value-added approach. With the view that green features will become more important to certain users in the next five years, Liberty Property Trust is making the commitment to sustainable development now. Rather than a marketing ploy, they see it as an integrated component of "quality management" for their developments.

According to Gattuso, the parties involved in office location decisions often are not knowledgeable about green buildings. Cost is a major issue and due to the misperception that green buildings cost more, there is sometimes hostility toward this concept. Succinct, compelling data are needed as a tool to prove the benefits of green buildings.

Gattuso named four groups that affect the decisionmaking process for office selection and noted that education about green buildings is important for all of them. The groups include the real estate design community, end users, intermediaries (brokers and real estate advisers), and the public sector. It was noted that intermediaries often act as a "firewall" between the real estate community and users, sometimes making it necessary to market around them to CEOs and corporate decision makers. Gattuso argued that the push toward sustainable development may have to come from the public sector. To advance the argument for sustainable development, it will be necessary to have an accounting system that takes all community costs into consideration, including those related to such things as schools and transportation systems.

John Igoe of Palm Solutions Group commented that local communities may be willing to encourage sustainable building practices if a benefit can be proven, but making the public sector responsible for regulating or mandating sustainable development could be a double-edged sword.

Panel participants were asked to provide further insights into the opposition and barriers to green building and sustainable development based on their own experience.

As a challenge to developers, John Igoe noted that corporate users of real estate are changing and reducing their size but are likely to have higher expectations for workplace quality in the future. Igoe commented that had companies that built large corporate facilities before

the dot.com crash—such as Cisco—been more sensitive to user needs and expectations, they might have fewer problems today in subletting their space.

Citing her firm's work in Barcelona and Boston, Barbara Faga, chairman of the board at EDAW, Inc., concurred that there are barriers created by midlevel corporate managers or public sector employees all over the world. Graham Wyatt, partner with Robert A.M. Stern Architects, agreed that considerable interest exists at the grass-roots level. He observed that society as a whole has to deal with large-scale energy issues but people can still get involved in small issues that will ultimately contribute to sustainability. One barrier he sees is the resistance of institutional clients to green buildings because of the time and effort involved in the certification process.

David Neuman from Stanford University described the operational constraints that universities face, and suggested an internal cost allocation system as one way to encourage energy-efficient measures and green buildings. He believes that addressing how buildings can be made healthier would resonate with a wide audience.

Bruce Babbitt suggested that "soft" proscriptive techniques could be used to encourage efficient buildings, as long as clear and objective standards follow. He cited property tax credits as a potential form of incentive that could be used.

Rachelle Levitt, senior vice president of policy and practice at ULI, noted that a study of what office tenants want—published jointly by ULI and BOMA in 1999did not address sustainability except for those issues related to air conditioning or the indoor environment. This indicates how far we need to go to reach end users.

Jim Light, chairman of Chaffin/Light Associates, described his company's practice of charging buyers a one-half percent transfer fee to help pay for sustainable features. This practice helps to establish an ethic for sustainability and could help to reduce marketing costs. He pointed to a development project his company is undertaking at Lake Tahoe, California, in which sustainable features have contributed to the project's distinctive image and to a cultural awareness of environmental values. Based on resales, this approach appears to add value to the project. Jim Chaffin added that peer pressure can help make the case for sustainable development and others agreed that the cultural component is important in persuading users of the benefits of green development. Chaffin also noted that if there are economic arguments

for green buildings, the market will begin to respond, and, in time, users will need no convincing.

Citing the Gap example described by Bill McDonough, in which the payback period for green features was four years instead of an expected 11 years, participants agreed that as the payback period for green building costs becomes shorter, the arguments to build green become more compelling for real estate managers and corporate decision makers who operate within a short time frame. Companies make other capital expenditure decisions based on long time frames, and expenditures related to green features should be no different, but the case must be made empirically. Ken Hubbard pointed out that the case still has not been made to CEOs who report to shareholders on a quarterly basis.

Susan Maxman found that in public and university projects, the prospect of budgeting additional expenses for green buildings in the early years is an issue since the payoff period may require several years and there is strong pressure to use available funds for immediate operational costs.

John Pearce, university architect at Duke University, stated that he has made it clear to designers and contractors that he will not pay extra fees for sustainable development projects, which has forced all the members of a development team to collaborate and work efficiently. He said that there is an administrative burden involved in managing consultants in the green design and development process.

Jim Petsche, director of corporate facilities at NIKE, Inc., noted that the company has completed several energyefficient green buildings. NIKE will consider green features if they can show a payback period of five years (or, a 20 percent return on investment). According to Petsche, NIKE recognizes that it makes economic sense to spend a little more money on office space per square foot if the investment helps attract top-quality employees or if it enhances employee productivity. Petsche believes that the dearth of green building choices is a deterrent to users but "if you build it, they will come."

Roger Platt provided counter arguments to some of the reasons for green buildings that are detailed in the brochure, Making the Business Case for High Performance Green Buildings, published in 2003 by the U.S. Green Building Council, ULI, and the Real Estate Roundtable. He pointed to the longstanding practice of competitive bidding and the appeal of lower costs in standard construction as a deterrent to green buildings, which often incur higher

initial costs that cannot be recovered for several years. Though an integrated design process can help reduce costs, this method is not the norm in the development process. Platt also emphasized the role of lenders, especially institutional lenders, who often have a short investment time frame, holding real estate assets for only two to three years. Addressing the potential for reduced liability for green buildings, he doubts that the current state of the industry would allow for significant cost reductions. On the positive side, he concluded that benefits to the community from green development can be powerful and hard to argue with.

Scott Miller, president of Hyatt Hotels Corporation, provided a perspective from the hotel industry. Though hotel companies have resisted acting as pioneers in sustainable practices, there are encouraging signs—such as eco-tourism in the resort segment. But there is not yet strong customer demand for environmental practices. For example, Miller said, many hotels offer guests the option of not having their towels and sheets laundered every day for environmental reasons; almost no one chooses this option.

In contrast, Paul Murray from Herman Miller commented that his company receives up to 40 enquiries per month from customers interested in the green features of their products. Murray disagreed with the idea that only top managers have the vision to implement sustainable practices, noting that some companies such as Herman Miller or NIKE have CEOs that empower their employees to practice sustainability. He said that Herman Miller has seen increased employee productivity and better morale in buildings with green features. At Herman Miller's new MarketPlace building, the company will experience \$6 million in savings over what would have been paid in a conventional lease space. He challenged developers to deliver more green buildings, saying they are likely to be surprised by the amount of interest from users.

Jerry Lea, senior vice president at Hines, recounted that he has been involved in only five projects in which CEOs or top-level management actually participated in the building selection process. In most transactions, Hines must deal with the corporate facility manager or with a real estate broker. Lea noted that he had yet to work with a broker who places importance on green buildings. Facilities managers, on the other hand, make decisions based on personal risk so there is a need for much better data to convince them and then help them back up decisions to go green.

Harry Frampton revisited the issue of creating the right vocabulary to describe green or sustainable development. He pointed to "smart growth" as a case in which the terminology helped sell the message. The group agreed that until we get the packaging/branding right, it will be hard to take the concept mainstream. Susan Maxman suggested that as a next step, ULI should convene a forum on marketing and branding this movement.

#### **Opportunities for the Acceptance and Growth of Green Buildings and Sustainable Development**

Don Horn started off the next session with a discussion of the federal government's activities related to green buildings. GSA's focus is on a high-quality workplace that can help attract top employees in the "war for talent." This includes consideration of such factors as indoor air quality, environmental quality, and daylighting. Horn noted that many of the directives related to federal buildings, such as energy efficiency or reuse of historic structures, are complementary to the green building movement. GSA recognizes that the federal government should be a force for positive societal change. Unlike the private sector, this agency has the opportunity to look at offices as "living laboratories." For example, a federal building in Oklahoma City was designed as a green building with raised floors for underfloor airflow. A federal building in San Francisco is planned as an innovative 18-story tower with green features such as natural ventilation, a three-story sky garden, and a design that ensures views and daylight for everyone.

Federal agencies are becoming increasingly interested in the concept of high-quality workspaces, which is leading to more requests for green buildings. Horn noted that quality does sell.

GSA has done research on some of the "soft" impacts of green building such as the impact of the workplace on the productivity of individuals and organizations. Much of this information has been incorporated into the agency's Workplace 2020 program.

In the forum's next presentation, Jim Petsche described six "deliverables" that companies such as NIKE can contribute to help make the case for green buildings:

- Develop more high-performance buildings that can serve as models for other buildings.
- Participate in USGBC's LEED programs.

- Convince management and owners of the benefits of green buildings.
- Continue to improve operations.
- Encourage and educate others on incentives for sustainability.
- Go beyond the building—consider commuting and travel patterns, product manufacturing and distribution.

#### The Role of ULI in Green Building and **Sustainable Development**

The forum's final session focused on ULI's role in promoting green building and sustainable development. Ken Hubbard framed the discussion by observing that ULI brings a high level of objectivity to this issue. He asked the group to consider whether ULI should take the lead in this effort. If so, what steps should be taken?

Jim Chaffin noted that ULI provides leadership in gathering the facts on issues and then getting the information out to the right audiences. Its strength is in providing a collaborative approach that focuses on convening and facilitating. George Ranney believes that ULI would have many allies that would work with it, including business organizations such as Chicago 2020. These organizations realize that growth is inevitable and that it should be managed correctly.

Harry Frampton stated that as chairman of ULI, he is committed to making sustainable development a top priority. He believes that ULI can help "tip the scales" in this area. The Institute already pays considerable attention to the issue: last year Urban Land magazine published 64 articles on sustainable development and green buildings. Strong ULI staff support will continue, and Frampton will use his position as ULI chairman to promote sustainable development. For the coming year, each ULI district council has a goal to conduct at least one program on green development. The Institute will tackle ways of educating the membership and making the business case more effectively. ULI's development case studies and awards programs will highlight success stories and share best practices. In summary, ULI will act as a convenor and will get involved in partnerships to frame and support the dialogue and bring the right people to the table. These are important functions that ULI does well.

Roger Platt shared his thoughts on how the strengths of ULI can be used to help effect the debate, stressing that ULI already has taken a significant step in convening the day's forum to discuss ways of making the case for green buildings. He added that as an institution ULI has strong credibility based on the fact that is it made up of businesspeople who are concerned about the bottom line.

Platt noted that the Sustainable Development Council, which he chairs, is made up of a variety of ULI members who are interested or involved in projects with sustainable features but who are not necessarily advocates of the movement. Many of them are still investigating whether such projects make economic sense. For this reason, one purpose of the council is to encourage extreme candor regarding the "bleeding edge," or difficulties associated with sustainable development. He believes that ULI has the opportunity to help take the green building movement to the next level—market acceptance.

Panel members commented that ULI's leading role in the smart growth movement provides a good model for promoting green buildings and sustainable development. In this case, the extensive groundwork and focus on best practices already undertaken by the U.S. Green Building Council provide an excellent precedent for future activities by the Institute and other organizations. Michael Pawlukiewicz observed that it is important to provide the right type of collaborative setting when bringing together disparate organizations, some of which may not yet be convinced of the benefits of sustainable development. The smart growth movement illustrates that it is possible to effect changes in attitude.

Bill Browning concluded by pointing to ULI's strength within the real estate development and lending communities. This unique position allows ULI to play a powerful role as facilitator in promoting the business case for green buildings and sustainable development.

# **Policy Forum Agenda**

#### Monday, August 25, 2003

8:30 a.m.-9:30 a.m. Welcome and Introductions

Kenneth W. Hubbard, Executive Vice President, Hines

William D. Browning, Founder and Principal, Green Development Services, Rocky Mountain

Institute

9:30 a.m.-11:00 a.m. What Are the Major Challenges to Business Acceptance of Green Building and Sustainable

Development?

Christine Ervin, President and CEO, U.S. Green Building Council John Gattuso, Senior Vice President, Urban and National Development,

Liberty Property Trust

William McDonough, Principal, William McDonough + Partners Architecture and

Community Design

Discussion

11:00 a.m.-12:15 p.m. What or Where Are the Opportunities for the Acceptance and Growth of Green Building

and Sustainable Development?

Donald R. Horn, Architect, U.S. General Services Administration

James Petsche, Director, Corporate Facilities, NIKE, Inc.

Discussion

12:15 p.m.-1:30 p.m. Lunch

1:30 p.m.-2:30 p.m. What Is the Role of ULI in Green Building and Sustainable Development?

Harry Frampton, President, East West Partners Western Division, Beaver Creek, Colorado;

Chairman, ULI-the Urban Land Institute

Roger Platt, Senior Vice President and Counsel, the Real Estate Roundtable;

Chairman, ULI Sustainable Development Council

Discussion

2:30 p.m.-3:00 p.m. What Are the Next Steps?

3:00 p.m. Adjourn

# **Policy Forum Participants**

#### Chair

Kenneth W. Hubbard Executive Vice President Hines New York, New York

#### Cochair

William D. Browning Principal, Green Development Services Rocky Mountain Institute Snowmass, Colorado

#### **Participants**

Bruce Babbitt Lawver Latham & Watkins Washington, D.C.

James J. Chaffin, Jr. President Chaffin/Light Associates

Okatie, South Carolina Christine Ervin President and CEO

U.S. Green Building Council Washington, D.C.

Barbara Faga Chair of the Board EDAW, Inc. Atlanta, Georgia

Harry Frampton Managing Partner East West Partners Avon, Colorado

John Gattuso Senior Vice President, Urban and National Development Liberty Property Trust

Philadelphia, Pennsylvania

James Hartzfeld Vice President, Sustainable Strategy

Interface Floorcovering Kennesaw, Georgia

Donald R. Horn Architect

U.S. General Services Administration Washington, D.C.

John Igoe Vice President Real Estate/Site Services Palm Solutions Group Milpitas, California

Jerrold P. Lea Senior Vice President

Hines

Houston, Texas

James Light Chairman

Chaffin/Light Associates Basalt, Colorado

Susan A. Maxman Design Principal

Susan Maxman & Partners,

**Architects** 

Philadelphia, Pennsylvania

William McDonough

Principal

William McDonough + Partners *Architecture and Community* 

Design

Charlottesville, Virginia

Scott Miller President

Hyatt Hotels Corporation

Chicago, Illinois

Paul M. Murray

Corporate Environmental Manager

Herman Miller, Inc. Zeeland, Michigan

David J. Neuman

Associate Vice Provost for Planning/University Architect

Stanford University Stanford, California

John Pearce

University Architect Duke University

Durham, North Carolina

Iames Petsche

Director, Corporate Facilities

NIKE, Inc.

Beaverton, Oregon

Steven Piguet President Steven Piguet New York, New York

Roger Platt

Senior Vice President & Counsel The Real Estate Roundtable

Washington, D.C.

George A. Ranney, Jr. President & CEO Chicago Metropolis Chicago, Illinois

Will Rogers President

The Trust for Public Land San Francisco, California

**Jenifer Seal** Principal

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